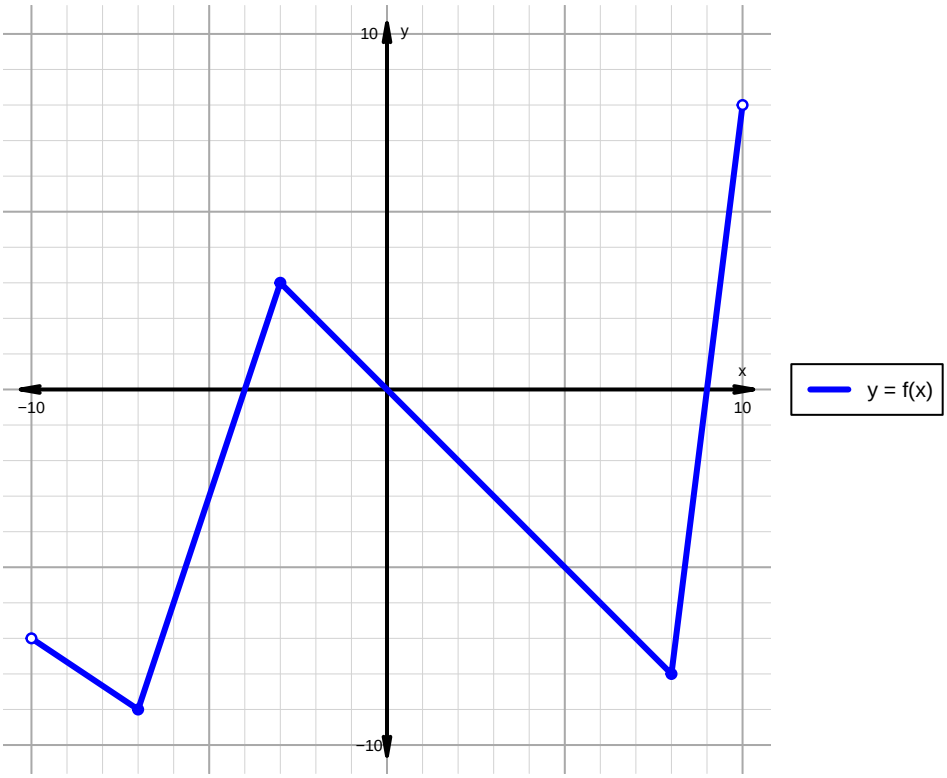
Name: Date:

Intervals, Transformations, and Slope Solution (version 152)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-4, 0) \cup (9, 10)$
Negative	$(-10, -4) \cup (0, 9)$
Increasing	$(-7, -3) \cup (8, 10)$
Decreasing	$(-10, -7) \cup (-3, 8)$
Domain	$(-10, 10)$
Range	$(-9, 8)$

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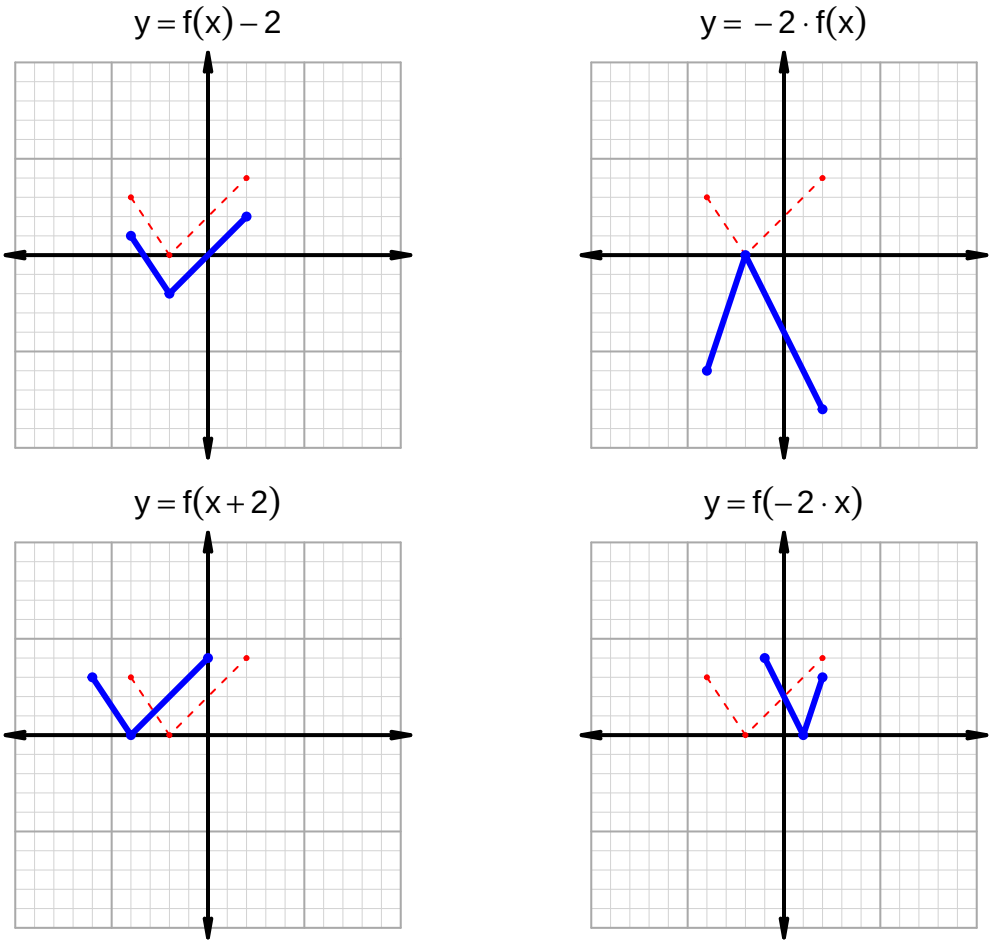
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 33$ and $x_2 = 87$. Express your answer as a reduced fraction.

x	$g(x)$
33	85
85	87
87	94
94	33

$\frac{g(87)-g(33)}{87-33} = \frac{94-85}{87-33} = \frac{9}{54}$

The greatest common factor of 9 and 54 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{1}{6}$$